



US Army Corps
of Engineers

DCAF Bulletin

Design Construction Analysis Feedback

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CEMP-C Construction/Design/Maintenance

Subject: Routine and Periodic Inspections of Elevators

Applicability: Information Update

Code References: ASME A17.2 (1994 Edition)

Discussion: AR 420-15, AF 88-15 & AF 122-10 require that elevators, escalators, etc. comply to ASME Elevator and Escalators Safety Code standards. ASME Elevator Safety Codes requires ongoing scheduled safety inspections and tests upon completion of the initial acceptance test. They are classified as routine (semi-annual), periodic (annual) and Five-Year safety inspections and tests. To assist in the Elevator & Escalator Safety Program this DCAF will highlight the ASME 17.2 Inspectors' Manual for Elevators and Escalators for inspection procedures and tests. It is required that a copy of this advisory DCAF, along with the acceptance test data be turned over to the using service (DPW'S, BCE'S, etc.) at time of physical transfer of the facility, to assist in an ongoing elevator safety program.

The following items should be checked for conformance by the enforcing authorities representative:

Inspections of Hoist way and Car Doors or Gates and Their
Operating, Locking, and Contact Devices.

- (1) Hoist way doors (Item 100.1)
- (2) Hoist way door or gate interlocks-locking functions and closed position (Item 100.2)
- (3) Hoist way door interlocks-auxiliary locks (Item 100.3)
- (4) Hoist way door or gate-separate or combination mechanical locks and electric contacts (Item 100.4)
- (5) Power-door operation (Item 100.5)
- (6) Car door or gates and electric contacts (Item 100.6)
- (7) Emergency-release switch in car (Item 100.8)

Inspections Made From Inside the Car

- (1) Car enclosure (Item 101.1)
- (2) Car illumination (Item 101.2)
- (3) Operating and control devices (Item 101.3)
- (4) Car floors, sills, and landing sills (Item 101.4)
- (5) Protection of projections and recesses in hoist ways (Item 101.5)

- (6) Car emergency signals for elevators (Item 101.6)

Inspections Made Outside of Hoist way

- (1) Hoist way enclosures and doors (Item 102.1)
- (2) Hoist way access switches (Item 102.2)
- (3) Parking devices and Hoist way door unlocking devices (Item 102.3)
- (4) Car platform guards (aprons) (Item 102.5)

Inspections Made From Top of Car

- (1) Top of car clearance (Item 103.1)
- (2) Counterweight and counterweight buffer (Item 103.2)
- (3) Wire rope fastenings and sheaves (Item 103.3)
- (4) Wire rope inspection (Item 103.4)
- (5) Wire rope lubrication (Item 103.6)
- (6) Normal terminal stopping devices (Item 103.7)
- (7) Final terminal stopping devices (Item 103.8)
- (8) Car and counterweights horizontal clearances (Item 103.9)
- (9) Car and counterweight guide rails, rail fastenings, car cross heads, and car guiding members (Item 103.10)
- (10) Alignment of rails (Item 103.11)
- (11) Car and Hoist way door and gate operating, locking and contact devices and interlocking retiring cams (Item 103.12)
- (12) Hoist way and car door and gate hangers and associated equipment, interconnections of multi-section door panels and Hoist way door vision panels (Item 103.13)
- (13) Top of car operating devices and working platforms (Item 103.14)
- (14) Governor-rope releasing carrier (Item 103.15)
- (15) Car frame stiles (Item 103.16)
- (16) Car leveling devices (Item 103.17)
- (17) Hoist way junction boxes and traveling cables (Item 103.18)
- (18) Overhead and deflecting sheaves (Item 103.19)
- (19) Protection and projections and recesses in hoist ways (Item 103.20)
- (20) Floor numbers (Item 103.22)
- (21) Installation of pipes, wiring, and ducts in Hoist way (Item 103.23)
- (22) Hoist way protection in case of fire (Item 103.24)

Inspection Made in Overhead Machinery Space and in Machine Room

- (1) Inspection of wire rope and rope fastenings (Item 104.1)
- (2) Overhead secondary and deflecting sheaves (Item 104.2)
- (3) Overhead beams and fastenings (Item 104.3)
- (5) Top counterweight clearances (Item 104.5)
- (6) Speed governor (Item 104.6)
- (7) Traction driving sheave (Item 104.7)
- (8) Guards of exposed equipment (Item 104.8)

(9) Driving machine terminal stopping switches, slack rope devices, and normal terminal stopping switches (Item 104.10)

(10) Gears and bearings (Item 104.11)

(11) Driving machine motor (Item 104.12)

(12) Driving machine brake (Item 104.13)

(13) Motor-generator sets used with generator-field control

Item 104.14)

(15) Controller mechanisms, wiring, and fuses (Item 104.15)

(16) Absorption of regenerated power (Item 104.16)

(17) Lights, fire extinguishers, housekeeping, and ventilation (Item 104.18)

(18) Installation of pipes, wiring, and ducts in machine room and machine spaces (Item 104.19)

(19) Hoist way protection in case of fire (Item 104.20)

Inspections Made in Pit

(1) Pit, pit stop switch, and pit light and receptacle (Item 105.1)

(2) Car and counterweight oil buffers (Item 105.2)

(3) Counterweight guards (Item 105. 5)

(4) Speed governor rope-tension sheaves (Item 105.6)

(5) Compensating-rope-tension sheaves locking devices (Item 105.8)

(6) Rope, wheel, and lever operating devices (Item 105.9)(105.11)

(7) Traveling cable (Item 105.12)

(8) Car frame(sling) and platform (Item 105.13)

(9) Car and counterweight bottom guide shoes and safety parts (Item 105.14)

Any other applicable requirements that the equipment was required to conform to at the time of installation and any alteration.

CONCLUSION: Elevator safety inspections are a very important part of the users installation/maintenance and safety requirements. The enforcing authority or the using agency must make arrangements to have the equipment safety certified on a regular scheduled basis for compliance with AR and AF regulations. Elevator training and safety certification, along with technical assistance is available by calling Mr. Harold Bush at HQUSACE tel # 202-761-1381.


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